

# AN OPTICAL SWITCHING APPARATUS AND METHOD FOR FABRICATING

## Abstract of Disclosure

A hybrid integration process for fabrication of an optical cross-connect switching apparatus. The switching element is based on the deflection of light beam in electro-optic materials by applying electric field across electrodes of an appropriate configuration. The integration process includes fabrication of a substrate (e.g. silicon substrate) with 2D imaging optics from polymeric materials (or silica), fabrication of the light deflecting element, and assembly of the deflecting element on the substrate with imaging optics. The fabrication of the light deflecting element includes fabrication of a LN (lithium niobate) block. The LN block assembled in an optical switching apparatus includes a two-dimensional waveguide formed on a surface of the LN block and an electrode on a surface of the LN block.